ECHOMATICA

Multi-tap drum & tape echo

LV2 plugin for MOD Dwarf, MOD Duo and MOD DuoX



USER MANUAL

Mondomatic Effects | Jim Augé | ISC License
websites.umich.edu/~jauge/echomatica

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About this manual

The Echomatica LV2 plugin DSP and GUI were created without the use of AI. The manual, however, is mostly AI created.

1. Introduction

Echomatica emulates the Italian multi-tap magnetic **drum and tape echo** units designed by Societa Elletronica Palomba (SEP) and sold under the Meazzi, Framez and Vox brands in the late 1950s and early 1960s. These machines record your signal onto a spinning magnetic drum (or tape loop) and read it back through several playback heads placed at different distances. The result is the rippling, rhythmic multi-repeat echo heard on classic instrumental guitar records.

You choose which heads you hear and which heads are fed back into the recorder. Each combination gives a distinct rhythm of repeats, just as turning the mode switch did on the originals.

A note on accuracy

The original units are rare, documentation is inconsistent, and some units were customised at the factory. Where sources disagreed, the author chose whatever sounded closest to the settings used by Hank Marvin of The Shadows, the most famous user of these machines. Some modes are therefore labelled “Hank Marvin Custom”.

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2. The modeled units

Echomatica covers four machines. Each has its own head spacing and its own set of modes.

Unit	Heads	Type	Notes
Echomatic 1 ‘Framez’	5	Drum	Five-head drum delay badged Framez.
Echomatic 1 ‘Jennings’	6	Drum	Six-head drum delay badged Jennings (Vox).
Echomatic 2	4	Drum	Four-head unit. Instead of modes it had volume controls for heads 3, 2 and 1.
Meazzi PA 304	5	Tape	Five-head tape delay.

All playback and feedback head combinations for each unit are included, except the Echomatic 1 Jennings settings that duplicate the Echomatic 1 Framez (see Section 5).

3. Installing on your MOD

Echomatica is distributed as an LV2 bundle. A bundle must be built for the processor in your unit; a bundle built for a desktop PC or a Raspberry Pi will not load on a different architecture. MOD's own documentation notes that a plugin has to be cross-compiled for the target device and then deployed to it.

4. Controls

Controls at a glance

Control	What it does
Mode	Selects the machine: Echomatic 1 Framez, Echomatic 1 Jennings, Echomatic 2 or Meazzi PA 304 and the playback / feedback head combination for the chosen unit (A, B, C …). See Section 5.
Level	Controls the echo effect level only.
Feedback	Controls amount of echo sent back to the record head, creating repeating echoes.
Echo / Halo / Reverb	Three feedback character settings. See Section 6.
Varispeed	Enable varispeed control to adjust the echo speed from halfspeed up to doublespeed.
Dry	Available only in the settings menu, a dry defeat switch so that you only hear the echoes.

5. Head timings and modes

Each unit's heads are numbered from the one nearest the record head (Head 1, the shortest delay) outward. The delay of a head is fixed by its position on the drum, just as on the original machines.

Head delay times

Unit	Head 1	Head 2	Head 3	Head 4	Head 5	Head 6
Echomatic 1 Framez	122 ms	280 ms	360 ms	428 ms	603 ms	–
Echomatic 1 Jennings	120 ms	280 ms	330 ms	424 ms	510 ms	595 ms
Echomatic 2	100 ms	200 ms	280 ms	360 ms	–	–
Meazzi PA 304	140 ms	210 ms	280 ms	350 ms	420 ms	–

Modes by unit

Unit	Mode	Description
Echomatic 1 Framez	A	Stock
	B	Hank Marvin custom (B)
	C	Hank Marvin custom (C)
	D	Hank Marvin custom. On the original machines position D was “no echo” (effect bypass).
	E	Stock
	F	Stock
Echomatic 1 Jennings	A	Based on a single source, but included because it sounds right.
	B	Alternate timing, used for “Apache”.
	C–F	Identical to the Framez modes, so not repeated in the plugin.
Echomatic 2	A	All four heads play back at their full relative volumes.
	B, C	Further head-volume combinations. (The original had volume controls for heads 3, 2 and 1 rather than modes.)
Meazzi PA 304	A, B, C	Stock
	E, F	Stock. Mode D is skipped because it was the original “no echo” position.

> **Why some modes are missing**
>
> Several original settings were “echo off” or exact duplicates of another unit's mode. They are left out so every position in the plugin does something different.

6. Echo, Halo and Reverb

Echomatica adds a three-way feedback character setting. These are **not** reproductions of anything on the original machines; they are practical additions:

Setting	Behaviour
Echo	Normal feedback. The plain, authentic repeat.
Halo	Modulated stereo feedback. The repeats widen and gently move.
Reverb	Modulated feedback with increased feedback amount. A longer, wash-like tail.

7. Presets

Echomatica ships with a small selection of presets for playing songs by The Shadows. They set the unit, mode and head selection for each song. In the MOD web interface, open the plugin's preset menu and choose a preset; you can also save your own.

A list of Shadows songs by unit and mode is available on the plugin's website (see Section 10).

8. Tips

- Start with **Echomatic 1 Framez** and step through modes A to F to hear how each head combination changes the rhythm.
- Use a clean or lightly overdriven sound. Heavy distortion before the echo muddies the repeats.
- Assign the Mode selector to a hardware control so you can change it without a browser.
- For the classic stage sound, run Echomatica before reverb in the chain.
- Echomatica is a delay, so it also affects pedalboard CPU use. The MOD Dwarf shows a CPU indicator; if it warns of overload, remove other heavy plugins first.

9. Troubleshooting

Problem	Try this
Plugin does not appear in the list	Reload the plugin list in the web interface. Check that the bundle you installed was built for your device's processor.
Plugin appears but will not load	The bundle is probably built for a different architecture. Use a build for your MOD unit or compile it with mod-plugin-builder.
No echo is heard	Confirm a playback head is active in the selected mode, and that Echomatica is wired between your input and output.
Pedalboard overloads	Remove other CPU-heavy plugins or use a lighter chain. On Dwarf, watch the CPU indicator.

10. Credits and links

Echomatica is made by **Jim Augé** (Mondomatic Effects), 2026. License: ISC. The plugin was built with PlugData and the Heavy compiler, using the Distrho Plugin Format (DPF).

Resource	Address
Plugin website	websites.umich.edu/~jauge/echomatica
Source code	github.com/Mondomod/Echomatica
Downloads (Patchstorage)	patchstorage.com/echomatica

Resource	Address
Contact	mondomod@yahoo.com

Thanks

Timothy Schoen (plugdata); dreamer (Heavy compiler development); Randall Reichenbach (pi-Stomp, Tree Fall Sound); MOD Audio, makers of the MOD Dwarf and MOD Desktop. Historical sources include Echotapper.nl and Meazzi.org.uk (via the Wayback Machine).

Echomatic, Meazzi, Framez and Vox are names of the original hardware and brands being modelled.